

## R E P O R T   T R A N S M I T T A L

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12/06/91  
prelim

ENVIRONMENTAL PRIORITIES INITIATIVE  
PRELIMINARY ASSESSMENT

Purpose: RCRA Preliminary Assessment

Site: Petroleum Recycling Corporation  
1835 East 29th Street  
Signal Hill, California  
Los Angeles County

Site EPA ID Number: CAT080011059

TDD Number: F9-9104-028

Program Account Number: FCA1752RAA

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Date of Inspection: June 5, 1991

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Report Date: July 30, 1991

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## 1. INTRODUCTION

As part of its Environmental Priorities Initiative (EPI) program, the U.S. Environmental Protection Agency (EPA) has requested Ecology and Environment, Inc.'s Field Investigation Team (E & E FIT) to conduct a Preliminary Assessment (PA) of Petroleum Recycling Corporation, Signal Hill located at 1835 East 29th Street.

The EPI program integrates the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the 1984 Hazardous and Solid Waste Amendments (HSWA) with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), in order to set priorities for cleanup of the most environmentally significant sites first. The Preliminary Assessment is conducted using CERCLA Hazard Ranking System (HRS) criteria to determine the site's eligibility for inclusion on the National Priorities List and, thus, assists in prioritizing facilities for the RCRA program.

## 2. SITE DESCRIPTION

### 2.1 SITE LOCATION AND OWNER/OPERATOR HISTORY

The Petroleum Recycling Corporation (PRC) facility is located southwest of the Long Beach Airport at 1835 East 29th Street, Signal Hill, Los Angeles County, California (T. 4 S., R. 12 W., sec 19, San Bernardino Baseline and Meridian, lat. 33°48'33" N., long. 118°10'12" W.) (see Figure 1, Site Location Map). The facility is located in a heavy industrial area (1,2).

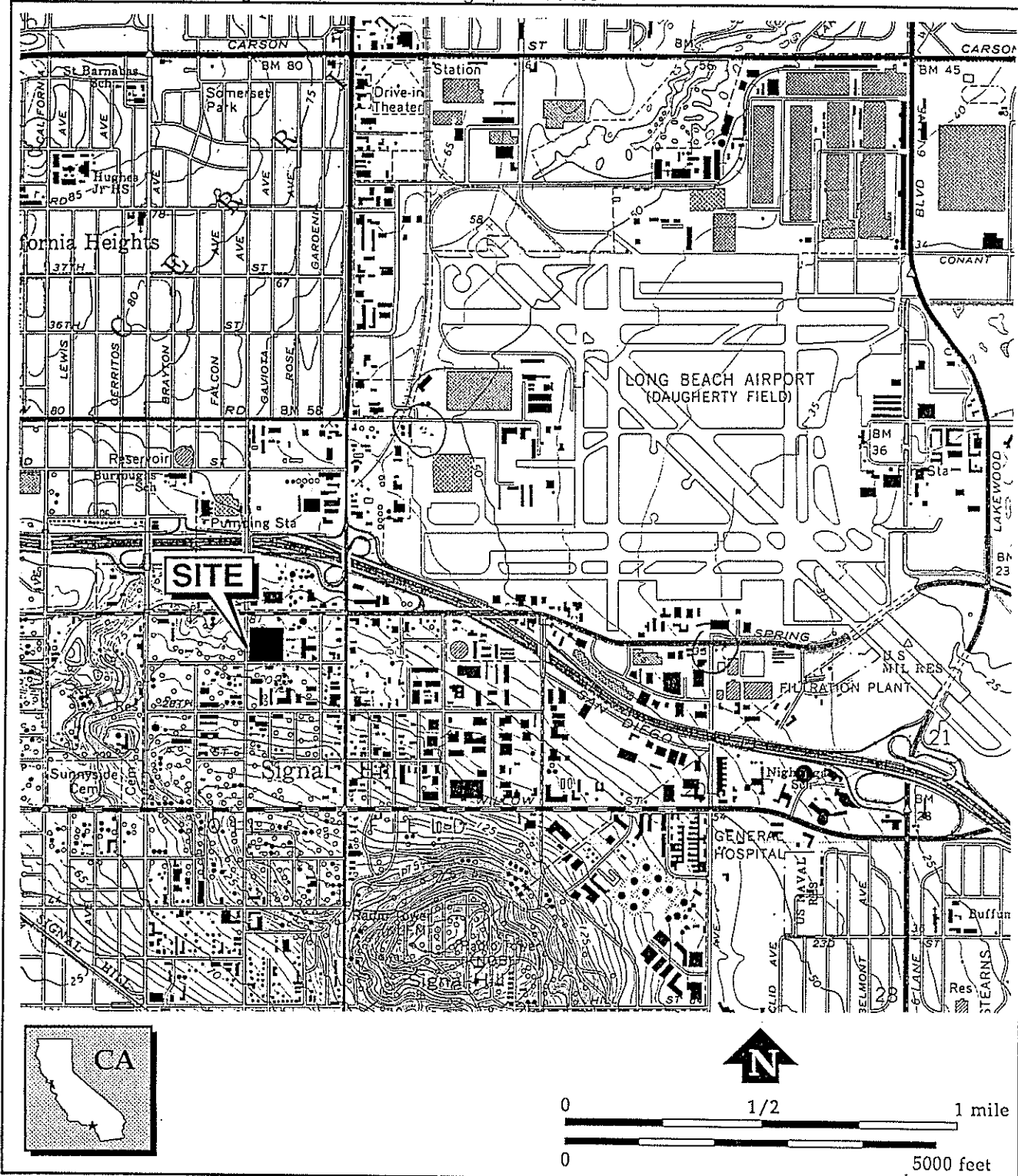
The Signal Hill facility covers 3 acres. There are about 40 employees at the plant at 1835 East 29th Street (2).

The Signal Hill facility consists of several buildings, an abandoned oil well, loading/unloading racks, a tank farm, a closed underground storage sump, a hazardous waste drum storage area, a hazardous waste bin storage area, and machinery typical of petroleum recycling and wastewater treatment such as shaker screens, pumps, centrifuges, separators, a filtration press, and a thermal dryer (see Figure 2, Facility Map) (2).

There are several buildings at the facility. None of the buildings store hazardous waste (except for a storage shed which holds lab samples). The buildings on site include an operations office; a waste testing lab; a caustic product storage shed; three mobile trailers used as a wastewater lab, a lunchroom, and an office building; two railroad cars used as offices; a truck maintenance building; and two old car wash buildings now used to store clean drums and office equipment (2).

Prior to 1950 the site was probably farmland. An oil well, which is currently idle, was also constructed on the site prior to 1950. The western part of the Signal Hill facility was originally built, owned, and operated by Hume Refinery in the 1950s. Hume Refinery manufactured lubrication oil until the company went out of business. McAuley Oil

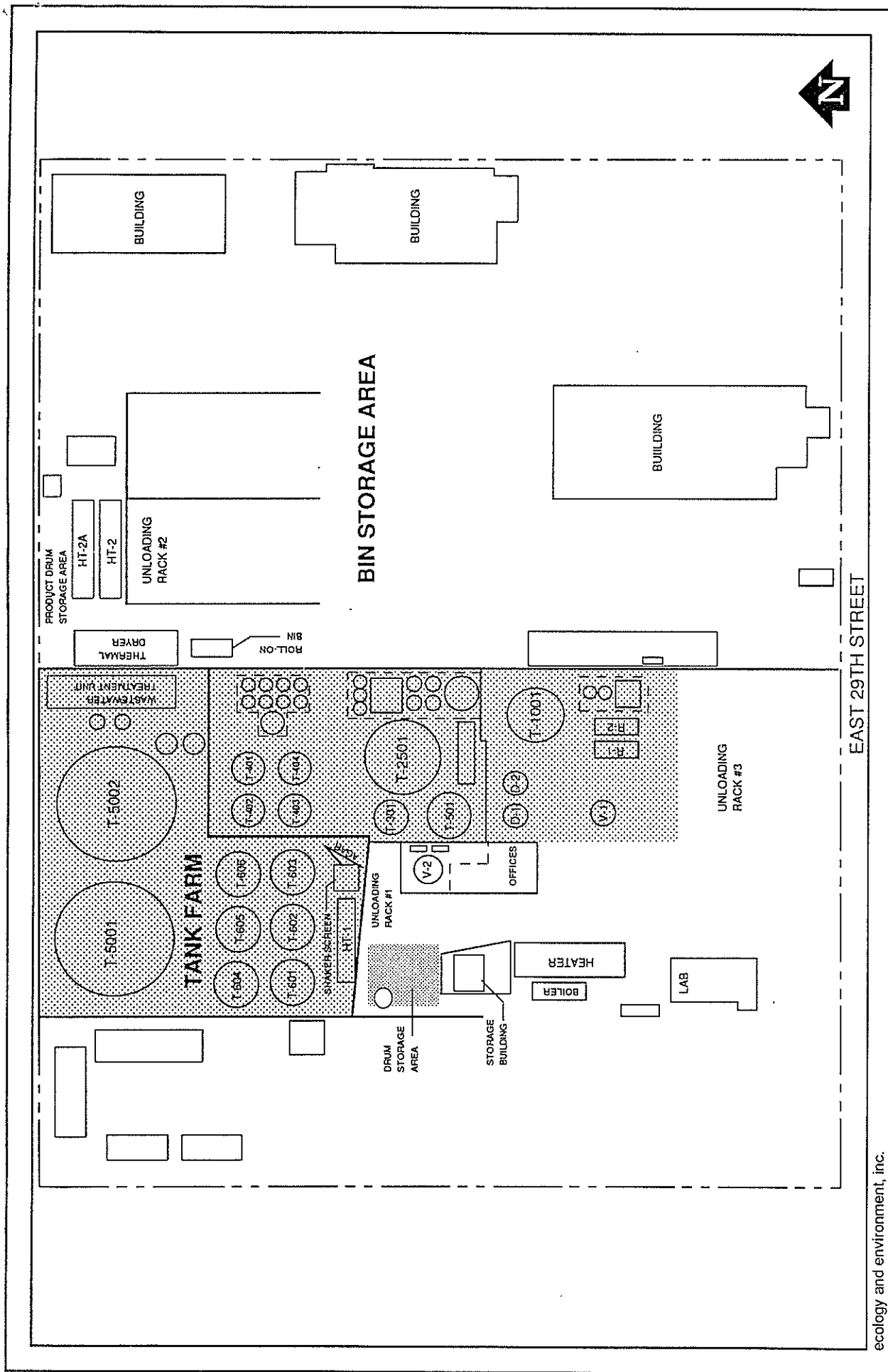
Source: USGS Map, Long Beach, Calif. Quadrangle, 7.5' Series



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Figure 1

SITE LOCATION MAP  
 Petroleum Recycling Corporation  
 1835 East 29th Street  
 Signal Hill, California



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Figure 2  
FACILITY MAP  
Petroleum Recycling Corporation  
1835 East 29th Street  
Signal Hill, California

Company (Charles McAuley, owner) purchased the site in 1969. McAuley Oil Company operated as an oil dehydration facility. Since 1973, the plant operated as an oil recycling/dehydration facility. PRC leased the property and the facility from McAuley in 1984 and purchased it in 1986. Subsequently, PRC has undergone several name changes: PRC was called Petromex when it started in March 1984; Petroleum Recycling Industries (PRI) in February 1985; and Petroleum Recycling Corporation (PRC) in November 1986. PRC is a privately owned company (2).

In 1988, PRC purchased the adjacent eastern property which was formerly a car wash. In addition to oil recycling/dehydration operations, PRC also formerly owned and operated two hazardous waste transportation yards: one yard was just east of the plant (EPA ID# CAT980886824) and the other yard was located at 16604 South San Pedro Street in the City of Carson, California (CAT981428006) (3). The yard adjacent to the plant was moved to 1842 East 29th Street while the other yard has been closed. The former yard is now part of the facility (2).

The primary business operations at the facility are the recycling of waste oil and oily water, waste antifreeze, waste diesel, hazardous waste fuels, and petroleum refining industry wastes. The hazardous wastes generated and stored at the facility are typical for petroleum recycling operations (2).

## 2.2 FACILITY PROCESSES/WASTE MANAGEMENT

### 2.2.1 Historical

Historical facility processes and waste management practices at the site are not well known. Past practices at the Hume Refinery are unknown except for the fact that they manufactured lubrication oil (2). McAuley Oil Company's permit allowed it to receive several kinds of wastes including heavy metals, electroplating sludge, petroleum refining industry wastes, and pesticides like chlordane (4). However, it is unknown which of these wastes McAuley Oil Company actually received. Prior to 1989, PRC only had four waste streams: used oil, waste diesel, waste antifreeze, and low solid content petroleum refining industry wastes (K048, K049, K051) which were recycled with the used oil (2,5).

### 2.2.2 Current

Current facility processes and waste management practices involve six waste streams: waste antifreeze, waste diesel, hazardous waste fuel (alternative fuels), petroleum refining industry wastes (K-wastes), used oil, and oily water (2,6).

Waste antifreeze is unloaded from trucks at Truck Rack #3 and stored in tank V-1. PRC can handle up to 6,000 tons of waste antifreeze annually. The antifreeze is transported off site to be recycled at another PRC facility in Fontana, California, or at Romic Chemical in Palo Alto, California (2).

Waste diesel from ships is unloaded from trucks into receiving tank T-403. The waste diesel is sold as a product and transported to other facilities for various uses (2).

Hazardous waste fuel (alternative fuels) is unloaded by truck into receiving tanks T-401, T-402, and T-404, which are RCRA-regulated SWMUs. This is a relatively new waste stream for PRC that started in December 1990. The wastes are liquid and solid F-wastes which contain halogenated and nonhalogenated spent solvents and oil/paint sludges. Solid wastes that come in drums remain in their original drums although liquid, if present, may be pumped off the top. These drums go directly to the hazardous waste drum storage area. The liquid wastes are unloaded at Truck Rack #1, are filtered as they go through the initial pumps and shaker screen, and are batched in the receiving tanks. Solids that come off the shaker screen are drummed and put in the hazardous waste drum storage area. Solids that come in waste drums are sent to Marine Shale in Louisiana, or Systech Environmental in Fredonia, Kansas. Liquid bulk wastes are sent to Systech Environmental; Patchem in Missouri; and Industrial Fuels Resources (IFR) in Southbend, Indiana. Dirty empty drums are sent to Kooperage Drum Corporation and Apex Drum Corporation (2).

Petroleum refining industry wastes (K-wastes) are also unloaded at Truck Rack #1. K-wastes are treated like alternative fuels. In 1987 and 1988, the facility managed this RCRA-regulated waste stream separately so as not to mix it with used oil and other wastes. In 1987 and 1988, PRC only accepted K-wastes with less than 5 percent solids. In January 1990, the wastewater treatment system was in place and the facility could start processing high solid content K-wastes. Since November 1990, PRC has not received any K-wastes because of the Third/Third Land Ban, which prohibits sending solids from this waste to the Kettleman Hills Landfill and prohibits PRC's wastewater from being deep water injected (2).

Used oil and oily water are two waste streams that are handled similarly. These are unloaded at Truck Rack #2 if they need to go through the shaker screen. High quality waste oil that is less than 5 percent water and has minimal solids goes to the oil receiving tanks (T-601, T-602, T-603, T-604, T-605, T-606) where the waste oil may undergo heat or chemical treatment. Oily water and low quality waste oil that contains a large quantity of water or solids goes into the large receiving tanks (T-5001 and T-5002) where mixers keep solids from settling at the bottom of the tanks. From the T-5000 tanks, waste oil and waste oily water is sent to Wastewater Treatment System #1 (WW1). Installed in January 1990, WW1 is a mobile unit consisting of horizontal and vertical centrifuges, a filter press, and a thermal dryer. The treatment is done in tanks using many processes which include decanting, heat/chemical treatment, distillation, centrifuge, thermal drying, filter press, and physical separation. The treatment objective is to remove water and sediments from the oil. The WW1 unit generates waste oil, wastewater, and solids. Oil and water are separated in tanks T-2501 and T-1001. Waste oil goes to T-301 and then to the T-600 and T-5000 tank series before final decanting. The recycled oil is sold to the fuel market for further blending and/or burning or other markets as dictated by oil specifications (6). Wastewater undergoes chemical treatment, Dissolved Air Flotation, separation, and is then sent through a clarifier before being transported off site to

deepwater injection wells at Environmental Protection Corporation in Bakersfield, California or to the Publicly Owned Treatment Works at Gibson Corporation in Wilmington, California. PRC is trying to obtain a permit for wastewater discharge into the industrial sewer system. Wastewater from used oil can sometimes be composed of 30 to 40 percent solids. These solids are drummed and stored in the hazardous waste storage area. Dry solids generated by the thermal dryer go into storage bins which are trucked to off-site disposal or incinerator facilities. Dry solid wastes have to meet Toxicity Characteristic Leaching Procedure (TCLP) values to go into the Kettleman Hills Landfill; wastes that do not pass TCLP standards go to Industrial Fuels Resources (IFR) in Missouri to be incinerated. The only wastes sent to IFR were those that were not sent off the facility before the Third/Third Land Ban had been in effect (2).

PRC is in the process of changing some of its facility processes and waste management practices. PRC is now expanding the list of hazardous wastes it accepts as documented in its new Part A and Part B permit applications. PRC has added F-wastes to its permit and is trying to add U-wastes and additional D-wastes. Prior to 1986, PRC put the waste solids from bottoms of on-site tanks into bins near the tanks in a convenient area. PRC has proposed handling a new waste stream in its May 1991 Part B that was submitted to the California Department of Health Services (DHS) (2,6). The proposed waste stream (high pH water) would be unloaded by truck into tank V-2 to receive pH adjustment. It would then be sent to a disposal area or sewer discharged. In the future K-wastes will be unloaded off trucks at Truck Rack #2 to go through the shaker screen to tanks HT-2 and HT-2A before being received by either T-5001 or T-5002. PRC is considering changing all the waste storage tanks at the Signal Hill facility to RCRA-regulated waste tanks (2).

PRC representatives were unaware of any hazardous waste releases to the environment that may have occurred while the facility was operated by Hume Refinery or McAuley Oil. A fire occurred at the facility in 1972, but it is unknown whether or not any releases resulted. PRC representatives (and Corrective Action documentation in the May 1991 Part B) say that no releases to the environment (soil or water) have occurred at the facility since PRC began occupation of the site in 1984 and that intermittent small spills have been fully contained within the secondary containment areas of the facility (2,6). However, the facility has received violations related to releases of hazardous waste to the environment (see Section 3, Regulatory Involvement). Soil sampling done in 1987 and 1989 by consultants to PRC showed elevated levels of total petroleum hydrocarbons (TPH), chromium, lead, copper, and nickel underneath the tank farm. Soil sampling done in 1990 by consultants to PRC in the area around the closed sump (now the hazardous waste drum storage area), performed at the request of the Los Angeles County Department of Public Works to complete closure certification, indicated elevated levels of TPH and volatile organic compounds (see Section 5.1, Waste Type and Quantity, for sampling results) (7,8,9).



### 3. REGULATORY INVOLVEMENT

#### 3.1 U.S ENVIRONMENTAL PROTECTION AGENCY

The site, under the name of McAuley Oil Company, initially filed Part A of a RCRA hazardous waste facility permit application with EPA on June 11, 1981. The site, under the name PRC, filed a Part A permit application on June 24, 1987. PRC's most recent Part A was submitted in December 1990. As of September 19, 1990, the RCRA database indicated the site is a large-quantity generator of hazardous waste and a Treatment, Storage, and Disposal Facility (TSDF) operating under interim status (10).

On November 8, 1989, EPA conducted an inspection at PRC. At the time of the inspection, the facility had failed to obtain analyses or other required information indicating that all used oil fuel accepted by the facility did not contain quantifiable levels of polychlorinated biphenyls (PCBs) (11). On December 11, 1989, a load of material that had been transported to Systech Environmental (Lebec, CA) was rejected due to polychlorinated biphenyls (PCB) contamination. The load of material was described by PRC as 6,800 gallons of mixed oils with greater than 1,000 parts per million (ppm) halogens from tank #402. Systech Environmental performed a PCB analysis on the load and detected 266 ppm PCB. The load was returned to PRC's Fontana facility and disposed of on March 31, 1990. As a result of this activity there was an inspection by EPA at the Signal Hill facility on April 2, 1990 and PRC received a Complaint and Notice of Opportunity for Hearing (12).

#### 3.2 CALIFORNIA DEPARTMENT OF HEALTH SERVICES (DHS)

The site, under the name McAuley Oil Company, received its Interim Status Document (ISD) from DHS on July 30, 1982 (13,14). The site, under the name PRC, received a revised ISD on July 18, 1988 (2,14). PRC has submitted numerous Part B applications (Operations Plans) to DHS, most recently in January and May of 1991 (6). DHS has yet to approve a Part B for PRC. DHS currently classifies PRC as a TSDF operating under interim status (10).

DHS has conducted at least four surveillance and enforcement inspections at the facility. The inspections were held on August 20, 1987; February 17, 1989; November 16, 1990; and March 4, 1991 (3,15,16). Violations included the following: failure to minimize unplanned releases of hazardous waste (one roll-off bin containing K048/K054 filter cake was leaking onto the soil); receiving F-listed wastes (F001 and F003) without submitting a revised Part A; failure to have a spill confinement structure capable of holding the contents of hazardous waste storage tanks #5001 and #5002; failure to have a continuous base designed so that surface water runoff or spill can be contained at the hazardous waste drum storage area located at the maintenance yard; and failure to have the northern perimeter of the transportation yard fenced from public access (3,15,16). PRC has corrected these violations (2).

### 3.3 CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

The California Regional Water Quality Control Board (RWQCB) is not involved with the facility (17,18).

### 3.4 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

The South Coast Air Quality Management District (SCAQMD) has given PRC air permits for its waste oil dehydration plant, wastewater treatment system, aboveground storage tanks, heater, and boiler. PRC has applied for permits for the vapor recovery system and unloading racks. SCAQMD regularly inspects the site; the most recent inspection was on January 16, 1991 (6). SCAQMD cited PRC for violations to which PRC has responded. On October 5, 1990 there was a complaint from a business neighbor who smelled noxious odors coming from the thermal dryer. The thermal dryer was subsequently shut down and a permitted vapor recovery system is currently in place (2,6,19).

### 3.5 COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH AND HUMAN SERVICES

The County of Los Angeles Department of Health and Human Services (County Health) has files on the facility and issues a hazardous waste permit to the facility annually (2,6).

### 3.6 CITY OF LONG BEACH FIRE DEPARTMENT

The Long Beach Fire Department has given PRC a Facility Fire Permit. The fire department annually inspects the facility--most recently in October 1990--and has occasionally inspected the company's fire drills (2,6).

### 3.7 LOS ANGELES COUNTY SANITATION DISTRICT

The Los Angeles County Sanitation District annually inspects PRC's wastewater treatment system and has given PRC industrial wastewater discharge permits (2,6).

### 3.8 INTERAGENCY INVOLVEMENT

According to a May 8, 1991 newspaper article, an interagency environmental task force involving DHS, County Health, the Long Beach Fire Department, and the City of Signal Hill Police Department seized documents from PRC on May 7, 1991 seeking evidence that PRC shipped waste oil contaminated with toxic wastes (PCBs, lead, and carcinogenic substances) through an underground pipeline to the Long Beach fuel storage site to Wright Terminals Corporation. PRC denied shipping PCB- and lead-laden oil to Wright. No charges have been brought against PRC to date (2,20).

## 4. DESCRIPTIONS OF INDIVIDUAL SOLID WASTE MANAGEMENT UNITS

Distinct Solid Waste Management Units (SWMUs) have been identified to evaluate potential on-site sources of releases to air, surface water, groundwater, soil, and subsurface gas. A SWMU is defined as any discernible waste management unit at a facility from which hazardous

constituents might migrate, irrespective of whether the unit was intended for the management of solid and/or hazardous waste. As a result of this Preliminary Assessment, FIT has identified four significant SWMUs at the site. Additional SWMUs may exist.

#### 4.1 TANK FARM

Unit Description: The tank farm is located on the northern half of the facility (see Figure 2, Facility Map). The tank farm has approximately 30 tanks and has a capacity of approximately 880,000 gallons. (For a list of all storage tanks on site, including their volume and approximate age, see Table 5-1). This appears to be a RCRA-regulated unit because it is used to store off-site generated wastes for longer than 6 days (2,6).

Date of Start-up: Most of the tank farm was built in the 1950s by Hume Refinery. A large fire occurred at the facility in 1972 and tanks may have been replaced or added at that time. Several tanks on site were previously used before being installed at the Signal Hill facility. These factors combined with the lack of records on these aboveground tanks makes it difficult to determine the exact start-up date of most of the tanks. PRC added several smaller tanks to the facility in the 1980s: Tanks R1, R2, R3, D1, and D2 were added in 1984 and 1985, Tank HT-1 was added in 1987, Tanks HT-2, HT-2A, and T-404 were added in 1989. See Table 5-1 for the ages of the tanks (2).

Date of Closure: The tank farm is still operational (2).

Waste Managed: Hazardous waste managed at the tank farm has included waste oil, oily water, petroleum refining industry wastes (K-wastes which can include heavy metals), waste antifreeze, and waste diesel (2,6).

Release Controls: Containment of the tank farm has evolved from bare soil in the early 1980s to the current paved and bermed secondary containment with pumps and sumps. A February 17, 1989 DHS inspection report said that the large storage tanks, T-5001 and T-5002, were situated on soil. The outer bermed area was paved from 1984 to 1986 and the inner bermed area where the tanks are was paved from 1988 to 1989 (2,3).

History of Releases: Consultants to PRC have reported releases of hazardous substances from this area to soil. Sampling relevant to this SWMU is reported in Section 5.1, Waste Type and Quantity (2,7,8,9).

#### 4.2 UNDERGROUND STORAGE SUMP

Unit Description: An underground storage sump was located underneath the current hazardous waste drum storage area, just south of the T-600 storage tanks (see Figure 2, Facility Map). The underground storage sump was constructed of concrete and had a capacity of approximately 3,000 gallons. It is unknown whether wastes are stored in this unit for longer than 6 days (2,6,7,8,9).

Date of Start-up: Unknown (2).

Date of Closure: The sump and surrounding soil were removed and the area was paved over in September 1987 by consultants to PRC. It was not clean-closed and subsequent sampling requested by the Underground Tank Division of the Los Angeles County Department of Public Works indicated extensive petroleum and lead contamination. PRC is working with the Department of Public Works to clean-close the sump, as it has been classified as an underground tank (2,6,7,8,9).

Waste Managed: The underground storage sump was reportedly used for storage of oily water--primarily runoff rain water from the southern portion of the facility (2,9).

Release Controls: The sump was made of concrete with no secondary containment (9).

History of Releases: Sampling relevant to this SWMU occurred in November 1990 after PRC received notices of non-compliance from the Los Angeles Department of Public Works that sampling had not been performed during the closure. A subsequent investigation found elevated levels of lead, petroleum hydrocarbons, and volatile organic compounds in soil to a depth of 40 feet. Sampling relevant to this SWMU is reported in Section 5.1, Waste Type and Quantity (2,9).

#### 4.3 HAZARDOUS WASTE DRUM STORAGE AREA

Unit Description: The hazardous waste drum storage area is located just south of the T-600 storage tanks (see Figure 2, Facility Map). The hazardous waste drum storage area has been used since 1986. It can hold up to 75 55-gallon drums, but on average holds 30 drums. Currently, the drums are picked up approximately every three weeks (less than 90 days). The area appears to be a RCRA-regulated unit because off-site generated wastes are stored here for longer than 6 days (2).

Date of Start-up: The hazardous waste drum storage area was built in approximately 1986 (2).

Date of Closure: The storage area is still operational (2).

Waste Managed: The waste managed in this unit contains waste solids which include heavy metals in paint sludge, halogenated solvents, and refining sludge (2).

Release Controls: The drum storage area was paved in 1986. In a February 17, 1989 DHS inspection report it was noted that there were gaps in the masonry which served as runoff containment. PRC corrected the violation. The containment consists of bermed pavement sloped to a drain that flows to a sump (2,3).

History of Releases: No releases of hazardous substances from this area have been reported. Sampling relevant to this SWMU may have occurred when sampling was performed for the closed underground storage sump beneath the drum storage area (2,9).

#### 4.4 HAZARDOUS WASTE BIN STORAGE AREA

Unit Description: The hazardous waste bin storage area is located on a dirt lot just east of the tank farm and waste water treatment unit (see Figure 2, Facility Map). The hazardous waste bin storage area can hold up to 20 bins and 200 55-gallon drums. The roll-off bins are each approximately 8 feet by 14 feet by 4 feet. The bins appear to be RCRA-regulated units because they store off-site generated wastes for longer than 6 days (2).

Date of Start-up: The dirt lot was a truck yard until 1989 and was first used as a hazardous waste bin storage area in January 1990 (2).

Date of Closure: The hazardous waste bin storage area is still operational (2).

Waste Managed: The K048/K051 filter cake wastes can contain heavy metals such as hexavalent chromium and lead (2,3).

Release Controls: There is no secondary containment for the bins which are currently stored directly on soil. The northern portion of the facility which is downgradient from this area is not bermed to prevent potential runoff. PRC is in the process of paving the hazardous waste bin storage area and has recently begun to use plastic sheeting inside the bins (2).

History of Releases: A November 16, 1990 DHS inspection report stated that one of the roll-off bins containing K054/K051 filter cake was leaking, although this type of waste is supposed to be dry (15). PRC said the thermal dryer was not working well that day and responded to the spill by mixing diatomaceous earth into the bin with a backhoe until the bin stopped leaking. The liquid that spilled onto the ground was cleaned up with rags and the liquid-soaked rags were put in the bin. After this incident PRC lined the bins with plastic sheeting (2).

#### 4.5 AREAS OF CONCERN

The product storage areas, used oil dehydration plant, wastewater treatment system, chemical treatment system, and other process areas are potential areas of concern because these areas handle large quantities of hazardous waste and no relevant sampling has been performed. According to PRC no spills or leaks have occurred in any of these areas of concern (2).

### 5. HRS FACTORS

The Hazard Ranking System (HRS) is a scoring system used to assess the relative threat associated with actual or potential releases of hazardous substances from sites. It is the principal mechanism EPA uses to place sites on the National Priorities List. FIT has evaluated the following HRS factors relative to this site.

## 5.1 WASTE TYPE AND QUANTITY

Current facility processes and waste management practices involve six waste streams: waste antifreeze, waste diesel, hazardous waste fuel (alternative fuels), petroleum refining industry wastes (K-wastes), used oil, and oily water (2).

Current and past waste storage areas at the facility include the tank farm, the closed underground storage sump, the hazardous waste drum storage area, and the hazardous waste bin storage area. The waste storage areas are described in Section 4 (2,3,6).

The tank farm can store approximately 880,000 gallons of liquid. Most, if not all, of the aboveground storage tanks have at one time contained hazardous waste. The two largest tanks alone have stored 420,000 gallons of petroleum refining industry wastes. See Table 5-1 for specific volumes of tanks (2,6). The closed underground storage sump had a capacity of approximately 3,000 gallons. The hazardous waste drum storage area can hold up to 75 55-gallon drums. The hazardous waste bin storage area can hold up to 20 roll-off bins and 200 55-gallon drums.

Consultants for PRC have performed sludge and soil sampling at the tank farm. In March 1987, a surface sludge sample had 1,780 parts per million (ppm) total hydrocarbons, 24.9 ppm chromium, 26.8 ppm copper, and 124.9 ppm lead. The results of various samples from borings inside the tank farm showed elevated levels of hydrocarbon and heavy metals to a depth of 20 feet. At a depth of 10 feet sampling showed 15,000 ppm total hydrocarbons, 30.3 ppm chromium, 153.9 ppm lead, 24.7 ppm nickel, and 0.5 ppm PCBs. The background sample had 6 ppm total hydrocarbons and no metals (7).

A September 1989 investigation found chromium in soil samples from 9 ppm to 20 ppm at a depth of 5 feet near Tank T-5002 in the northern downgradient portion of the tank farm. The report asserts that the concentrations of arsenic, cadmium, and chromium found in samples were within the ranges found in natural soils. Lead was found at 1,040 ppm in a soil sample taken at a depth of 1 foot. Total hydrocarbons were found in soil at elevated levels, up to 110,000 ppm. PRC excavated soils to a depth of 5 feet and replaced them with clean fill (8).

Further investigation occurred on November 27, 1990 when soil samples were collected near a former 3,000-gallon underground storage sump which is located under the hazardous waste drum storage area. The sump was reported to be used for storage of oily water, primarily runoff rain water from the southern portion of the facility. Chlorinated hydrocarbons commonly used as solvents were detected in soil samples taken from the area underlying the former underground sump. The solvents detected include tetrachloroethene (PCE), 1,1,1-trichloroethane (TCA), and trichloroethene (TCE). Petroleum hydrocarbons were detected in soil samples to the maximum depth of 40 feet. Elevated levels of hydrocarbons

Table 5-1

TANK DESCRIPTIONS

Tank No.	Capacity (gallons)	Tank Age (Years)
D-1	5,000 gal.	10
D-2	5,000 gal.	10
HT-1	3,000 gal.	
HT-2	3,000 gal.	
HT-2a	3,000 gal.	
R-1	4,000 gal.	7
R-2	4,000 gal.	7
R-3	3,000 gal.	
T-5	2,000 gal.	<1
T-4	2,000 gal.	
T-6	550 gal.	<1
T-7	2,000 gal.	<1
T-301	17,600 gal.	28
T-401	16,800 gal.	28
T-402	16,800 gal.	28
T-403	16,800 gal.	28
T-404	16,800 gal.	7
T-501	21,000 gal.	28
T-601	25,200 gal.	28
T-602	25,200 gal.	28
T-603	25,200 gal.	28
T-604	25,200 gal.	28
T-605	25,200 gal.	28
T-606	25,200 gal.	28
T-1001	42,000 gal.	28
T-2501	105,000 gal.	28
T-5001	210,000 gal.	28
T-5002	210,000 gal.	28
V-1	9,450 gal.	28
V-2	16,296 gal.	28

Total: 881,296 gal.

Note: The tank age indicates the actual age of the tank, and not necessarily how long the tank has been on site.

(13,000 ppm TPH) in a 40-foot sample indicate that the full extent of contamination has not been delineated and it is unknown whether contamination extends to groundwater found at 80 feet below ground surface (bgs). Volatile organic compounds also showed elevated concentrations (up to 1,000 ppb) of various compounds. Most of the compounds detected were components commonly found in hydrocarbon fuels. The investigation report concluded that significant soil contamination is present in the area underlying the former underground sump, and that the lateral and vertical extent of the contamination needed to be defined (9).

## 5.2 GROUNDWATER

The PRC site is located in the southern part of the groundwater basin known as the Central Basin. The southern boundary of the Central Basin is delineated by the Newport-Inglewood belt of hills, part of which includes the Signal Hill area. The site is located on the northern flank of Signal Hill. Six aquifers have been identified within the geological formations beneath the site. In descending order they are: the Gage aquifer in the Lakewood Formation, the Hollydale, Jefferson, Lynwood, Silverado, and Sunnyside aquifers all within the San Pedro Formation. The aquifers all appear to be interconnected within 2 miles of the facility (21).

The Bellflower aquitard appears to be continuous beneath the site. The aquitard, consisting of clay, silt, and sandy silt, directly underlies the site and extends 80 feet down to the Gage aquifer (6,21). Well logs show that 30 feet of clay is found at a depth of 20 feet to 50 feet bgs (22). The water level in the Gage is found between 80 feet bgs to a depth of 175 feet beneath the site. Beneath the site, the Gage aquifer is interconnected with the Hollydale, Jefferson, and Lynwood aquifers. These aquifers extend from 175 feet bgs to a depth of about 300 bgs. The Silverado aquifer extends from 400 to 600 feet bgs. The Sunnyside aquifer extends from 650 to 950 bgs (21).

Annual net precipitation in the region, measured at the Long Beach weather station, is approximately 3.15 inches (23).

No groundwater sampling has been performed on the PRC site to document an observed release to groundwater. However, soil sampling conducted at the facility by consultants for PRC indicates that heavy metals, chlorinated solvents, petroleum hydrocarbons, and volatile organic hydrocarbons have migrated from sources on site to a depth of 40 feet (see Section 5.1, Waste Type and Quantity, for sampling results) (7,8,9).

The containment systems at the facility have evolved from bare soil to bermed concrete pads. For example, the containment system of the tank farm consists of sumps and concrete secondary containment, but the floor of the spill containment structure was composed of soil as recently as 1989 (3). There are no groundwater monitoring wells or leachate collection system on site (2).



Within 4 miles of the site, groundwater is a major source of drinking water. Drinking water in the vicinity of the PRC site is provided by the City of Long Beach, which operates the nearest well. The nearest well to the site is Citizen 7A well which is located 1 mile to the east of the facility (22,24).

The City of Long Beach operates 25 wells which are blended with purchased water from Metropolitan Water District. About 40 percent of the water is groundwater and 60 percent of the water is purchased surface water. The City of Long Beach has 87,923 service connections and serves approximately 410,000 people. Sixteen of these wells are within 4 miles of the site: four wells are between 1 and 2 miles from the site, six wells are between 2 and 3 miles from the site, six wells are between 3 and 4 miles from the site (24,25,26).

The City of Signal Hill operates three wells which are blended with purchased water from the Metropolitan Water District. About 10 percent of the water is comprised of purchased surface water. The City of Signal Hill has 2,200 service connections and serves approximately 9,000 people. One of these wells is located 3 to 4 miles from the site (27).

The Dominguez Water Corporation blends groundwater and surface water to serve approximately 100,000 people. Approximately 25 percent of this water is groundwater and 75 percent is surface water. Dominguez Water Corporation has three wells between 3 to 4 miles from the site (28).

### 5.3 SURFACE WATER

The PRC facility is located on the northern flank of Signal Hill, approximately 2 miles east of the Los Angeles River, 3 miles west of the Los Cerritos Canal, and 3.25 miles north of the Pacific Coast (1). The PRC facility is not located in a floodplain (6). There are no drinking water intakes along the Los Cerritos channel (29). Currently, the only hazardous substances at the facility that do not have secondary containment are the solid petroleum refining industry wastes in the waste storage bins (2).

Surface runoff from the site enters drainage ditches located at the northern boundaries of the facility at Gardena and 29th streets. These drains enter an underground storm drain immediately off site which carries runoff approximately 1.5 miles due east and merges into a canal. Water in this canal flows east approximately 1.5 miles before flowing south in the Los Cerritos Canal for an additional 4 miles to Alamitos Bay. The Alamitos Bay connects with the San Pedro Bay (in the Pacific Ocean) near the mouth of the San Gabriel River and Seal Beach. The total distance from the site to the coastline where Alamitos Bay connects with San Pedro Bay is approximately 7 miles (1,29).

Commercial fishing takes place in San Pedro Bay and the Pacific Ocean. Listed below are portions of four catch blocks encompassed by an 8-mile arc centered where Alamitos Bay empties into the San Pedro Bay:

Catch block # (% encompassed)	1987 Total catch (lbs)	1987 %-weighted catch (lbs)
718 (100%)	69.913	69,913
719 (80%)	428.311	342,649
739 (25%)	72.020	18,005
740 (15%)	46.373	6,956
Total		437,523

Thus, approximately 437,523 pounds of fish were caught commercially in 1987 within the 8-mile arc in the Pacific Ocean (30).

Sensitive environments associated with Coyote Creek, the San Gabriel River, and the saltwater portion of the 15-mile surface water pathway include the habitats for eight species. The federally endangered species include the light-footed clapper rail (Rallus longirostris levipes), the California least tern (Sterna antillarum browni), the California brown pelican (Pelecanus occidentalis californicus), and the salt marsh bird's beak (Cordylanthus maritimus ssp. maritimus). The federally proposed endangered species include the southwestern pond turtle (Clemmys marmorata pallida), the San Diego horned lizard (Phrynosoma coronatum blainvillei), Belding's Savannah sparrow (Passerculus sandwichensis beldingi), and the western snowy plover (Charadrius alexandrinus nivosus). The Seal Beach National Wildlife Refuge, which contains 711 acres of tidally-influenced area, and a smaller 40-acre wetland area located near the Los Cerritos channel are also associated with the saltwater portion of the surface water pathway (31,32,33).

#### 5.4 AIR

No air sampling has been performed to document an observed release to air (2). The facility has air permits for its wastewater treatment system from the SCAQMD (2,6).

There are 40 workers at the PRC facility (2). The estimated residential population within 1 mile of the site is approximately 9,100. The estimated residential population within 4 miles of the site is approximately 338,000 (34). A park and a school are located within 0.5 miles north of the site (1,6).

Although there are sensitive environments near San Pedro Bay, they are more than 4 miles from the site. The federally proposed endangered San Diego horned lizard (Phrynosoma coronatum blainvillei) has been sighted between 3 and 4 miles east of the facility (31).

## 5.5 SOIL EXPOSURE

Soil sampling indicates that there has been contamination in the tank farm area (see Section 5.1 Waste Type and Quantity) (7,8,9). However, much of the contaminated soil was removed and the tank farm area is now completely paved. PRC is located in an industrial area with limited public access because the site is fenced (2).

Approximately 9,100 people live within 1 mile of the site. There are 40 workers at the facility. There are no residents or sensitive environments on site (2,31,34).

## 6. SUMMARY OF FIT INVESTIGATIVE ACTIVITIES

### 6.1 AGENCIES CONTACTED

FIT acquired documents from EPA and DHS (11,12,13,14,15,16). In addition, FIT contacted RWQCB and SCAQMD (17,18,19).

### 6.2 RECONNAISSANCE OBSERVATIONS

FIT team members J. Chris Pires and Kathy Zavitz conducted a site reconnaissance visit on June 5, 1991. FIT interviewed Kathleen Tripple, compliance manager, and Marty Kruglikov, chief engineer, both of PRC. FIT toured the site and saw the tank farm, hazardous waste drum storage area, hazardous waste bin storage area, and the wastewater treatment unit (2).

Information gathered during the site reconnaissance is presented throughout this report. For additional information, refer to the Site Reconnaissance Interview and Observations Report in Appendix A and the photographs in Appendix B.

## 7. EMERGENCY RESPONSE CONSIDERATIONS

The National Contingency Plan [40 CFR 300.415(b)(2)] authorizes the Environmental Protection Agency to consider emergency response actions at those sites which pose an imminent threat to human health or the environment.

There is no apparent need for a referral to EPA's Emergency Response Section at this time. The wastes appear to be adequately secured from public access because the site is fenced (2).

## 8. SUMMARY OF HRS CONSIDERATIONS

The Petroleum Recycling Corporation (PRC) is located southwest of the Long Beach Airport at 1835 East 29th Street in Signal Hill, California. The facility is located in a heavy industrial area (1,2).

The Signal Hill facility consists of several buildings, loading/unloading racks, a tank farm, a closed underground storage sump, a hazardous waste drum storage area, a hazardous waste bin storage area, and machinery typical of petroleum recycling plants (2).

The primary business operations are involved with recycling waste oil and oily water, waste antifreeze, waste diesel, hazardous waste fuels, and petroleum refining industry wastes. The hazardous waste generated and stored at the facility is typical for petroleum recycling operations (2).

The following are significant Hazard Ranking System factors associated with the PRC site:

- o Facility can store approximately 880,000 gallons of hazardous waste;
- o Groundwater within 4 miles of the site is a source of drinking water for a large population; and
- o Distance to the nearest well is 0.5 miles.

9. EPA RECOMMENDATION

	<u>Initial</u>	<u>Date</u>
No Further Remedial Action Planned under CERCLA	_____	_____
Higher-Priority SSI under CERCLA	_____	_____
Lower-Priority SSI under CERCLA	_____	_____
Defer to Other Authority (e.g. <u>RCRA</u> , TSCA, NRC)	<u>JMJ</u>	<u>8/5/91</u>

Notes:

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26. Post, Bill, City of Long Beach, and Scott Ludeke, E & E FIT, telephone conversation, March 18, 1991.
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APPENDIX A  
CONTACT LOG AND REPORTS

**APPENDIX A**  
**CONTACT LOG AND REPORTS**

CONTACT LOG

Facility Name: Petroleum Recycling Corporation  
Facility ID: CAT080011059

Name	Affiliation	Phone #	Date	Information
Oscar Luque	Dominguez Water Corp.	213-834-2625	1/8/91	See Contact Report.
Andy Heintzelman	City of Signal Hill	213-426-7333	1/15/91	See Contact Report.
Jerry Frawley	City of Long Beach	213-426-5951	1/15/91	See Contact Report.
Ron Flohra	City of Long Beach	213-426-5951	1/16/91	See Contact Report.
Bill Post	City of Long Beach	213-426-5951	3/18/91	See Contact Report.
Michael Silbernagoe	U.S. Dept. of the Interior	805-725-2767	4/9/91	See Contact Report.
Jane Diamond	EPA	415-744-2139	5/17/91	There are no Surveillance and Enforcement files for this site.
Vern Christianson	EPA	415-744-2422	5/17/91	EPA has a Part B for this site.
Swang San Rashah	DHS, Long Beach	213-590-4968	5/17/91	Aron Yue (540-4852) is in charge of the permits.
Julie Johnson	DHS, Long Beach	213-590-5924	5/17/91	There are six files on the site.
Jenny Au	RWQCB, Los Angeles	213-266-7579	5/20/91	RWQCB had no underground tank files for this site.
Mike Wade	RWQCB, Los Angeles	213-266-7595	5/20/91	RWQCB had no NPDES permits or other permits for this site.
Willy Mendez	SCAQMD	818-572-2117	5/20/91	See Contact Report.
Warren Elder	City of Signal Hill, Public Works	213-426-7333	5/22/91	See Contact Report.

jcp/prc/clcr

CONTACT LOG (cont.)

Facility Name: Petroleum Recycling Corporation  
Facility ID: CAT080011059

Name	Affiliation	Phone #	Date	Information
Kathleen Tripple	Petroleum Recycling Corporation	213-595-6597	6/5/91	See Site Reconnaissance Interview and Observations Report.

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> Dominguez Water Corporation		
<b>DEPARTMENT:</b> Operations Dept.		
<b>ADDRESS/CITY:</b> P.O. Box 9351/Long Beach		
<b>COUNTY/STATE/ZIP:</b> Los Angeles/California/90810		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Oscar Luque	Production Supervisor	213-834-2625
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> Jennifer Eberle		<b>DATE:</b> 1/8/91
<b>SUBJECT:</b> location of wells		
<b>SITE NAME:</b> Petroleum Recycling Corp.*		<b>EPA ID#:</b> CAT080011059

There are currently four active groundwater wells in this water system. Wells #15 and #16 are located at 2178 S. Alameda St. by Carson St. Well #23B is located at 18800 Reyes St. by Anna St. Well #77 is located 1,000 feet south of 220th St. and 200 feet east of Westward Ave. These wells contribute approximately equal amounts of water to the system.

There are also three inactive groundwater wells in their system. Well #31A is located 500 feet south of Anna St. and 1,000 feet east of Reyes Ave. It was taken off line Jan. 1, 1991 because it was losing production. They are trying to get it back on line. Well #75 is located at Main St. by Lomita Blvd. It was taken off line in November 1990 due to lack of production. They are planning to redrill it. Well #79 is located at 229th and Anchor streets (one block west of Avalon). It was also taken off line due to lack of production. They plan to put it back on line this month.

None of the Dominguez wells were closed due to contamination, with the exception of some wells in Torrance which were closed due to seawater intrusion. There are no standby wells.

Approximately 25 percent of their water is groundwater and approximately 75 percent is surface water. Approximately 100,000 people are served by this water system. There are approximately 34,000 service connections.

\* This contact report was originally written for Americhem (EPA ID# CAD044429835).

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> City of Signal Hill		
<b>DEPARTMENT:</b> Dept. of Public Works		
<b>ADDRESS/CITY:</b> 2175 Cherry Ave., Signal Hill		
<b>COUNTY/STATE/ZIP:</b> Los Angeles, California 90806		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Andy Heintzelman	Water Supervisor	213-426-7333
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> Jennifer Eberle		<b>DATE:</b> 1/15/91
<b>SUBJECT:</b> Groundwater Wells		
<b>SITE NAME:</b> Petroleum Recycling Corp.*		<b>EPA ID#:</b> CAT080011059

The City of Signal Hill operates three groundwater wells. Well #6 is located at 7035 Jackson St. by Orange Ave. in Paramount. Well #7 is located at 6476 Orange Ave. by 65th in Long Beach. Well #8 is located at 6065 Cherry Ave. by 61st in Long Beach. These wells are all active. Groundwater is pumped into a reservoir and then blended with approximately 10 percent imported surface water from the Metropolitan Water District to serve a population of approximately 9,000 people in the city of Signal Hill. There are approximately 2,200 service connections.

\* This Contact Report was originally written for Americhem (EPA ID# CAD044429835).

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> City of Long Beach		
<b>DEPARTMENT:</b> Water Administration		
<b>ADDRESS/CITY:</b>		
<b>COUNTY/STATE/ZIP:</b>		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Jerry Frawley		213-426-5951
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> Janice T. Brickell		<b>DATE:</b> 1/15/91
<b>SUBJECT:</b> Well Information		
<b>SITE NAME:</b> Petroleum Recycling Corp.*		<b>EPA ID#:</b> CAT080011059

Mr. Frawley said that there are 25 wells which are blended with purchased water from the Metropolitan Water District. About 60 percent is purchased and 40 percent comes from the wells. The city has 87,923 service connections. All the wells are 3 to 4 miles from the ocean due to salt water intrusion. He thinks the nearest well to Long Beach Harbor is about 10 miles away.

Ron Flohra is the best person to speak to for well information. He should be in tomorrow. Mr. Frawley will have him call me to confirm information and provide additional information.

\* This Contact Report was originally written for a RCRA Preliminary Assessment of Texaco USA in Long Beach, California (CAT000646323).

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> City of Long Beach		
<b>DEPARTMENT:</b> Water Administration		
<b>ADDRESS/CITY:</b>		
<b>COUNTY/STATE/ZIP:</b>		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Ron Flohra		213-426-5951
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> Janice T. Brickell		<b>DATE:</b> 1/16/91
<b>SUBJECT:</b> Well Locations		
<b>SITE NAME:</b> Petroleum Recycling Corp.*		<b>EPA ID#:</b> CAT080011059

The City of Long Beach has wells north of the airport and east of Signal Hill.

The City operates up to 25 wells which provide 40 percent of the drinking water. The other 60 percent is purchased from Metropolitan Water District. Both sources are blended. There are 87,923 service connections.

## No of Wells

## Address or Location

3	Stearns Park; 2279 Argonne, between 23rd and Stearn
1	Spring St. and Ladoga
1	3407 Clark St.
1	North of 3407 Clark St. at Wardlow Rd.
1	3610 E. Spring St.
2	Long Beach Airport 2780 E. Wardlow Rd.
1	2101 Cover St.
1	6700 E. Carson
1	6000 E. Parkcrest



<u>No of Wells</u>	<u>Address or Location</u>
1	Parcrest, east of Marbeer
1	5705 Parkcrest
1	6440 Parkcrest
1	6800 E. Carson Studaker St.
2	1330 E. Jackson St.
1	1622 E. Jackson St.
1	1674 E. Jackson St.
1	5203 Rose
1	4505 Cherry
1	3359 Palo Verde
1	7010 E. Spring St.

\* This Contact Report was originally written for a RCRA Preliminary Assessment of Texaco USA in Long Beach, California (CAT000646323).

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> City of Long Beach		
<b>DEPARTMENT:</b> Division of Water Administration		
<b>ADDRESS/CITY:</b>		
<b>COUNTY/STATE/ZIP:</b> Los Angeles, California		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Bill Post	Bureau Engineer	213-426-5951
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> Scott Ludeke		<b>DATE:</b> 3/18/91
<b>SUBJECT:</b> Population served by city wells		
<b>SITE NAME:</b> Petroleum Recycling Corp.*		<b>EPA ID#:</b> CAT080011059

The City of Long Beach water system serves 410,000 people (plus or minus 10,000), which is approximately the population of the city of Long Beach.

\* This Contact Report was originally written for Federal Mogul Corp./Arrowhead Products (EPA ID# CAD982360349).

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> U.S. Department of Interior		
<b>DEPARTMENT:</b> Fish and Wildlife Service		
<b>ADDRESS/CITY:</b>		
<b>COUNTY/STATE/ZIP:</b>		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Michael Silbernagoe	Wildlife Biologist	805-752-2767
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> Scott Ludeke		<b>DATE:</b> 4/9/91
<b>SUBJECT:</b> Seal Beach National Wildlife Refuge		
<b>SITE NAME:</b> Petroleum Recycling Corp.*		<b>EPA ID#:</b> CAT080011059

The Seal Beach National Wildlife Refuge includes a total of 911 acres, of which 700 is tidally-influenced and the remainder is upland.

The refuge is managed primarily for endangered species.

There are both resident and migratory birds at the refuge. The light-footed clapper rail, Belding's Savannah sparrow and the California least tern are known to nest in the refuge. Other sensitive species using the refuge include the American peregrine falcon, western snowy plover, and the California brown pelican, a federally endangered species.

The salt marsh bird's beak, a federally endangered plant species, may or may not be present in the refuge. An occurrence was reported several years ago, but has not since been verified.

For further information, contact Dick Zembal of Ecological Services (714-643-4270).

\* This Contact Report was originally written for Federal Mogul Corp./Arrowhead Products (EPA ID# CAD008302002).

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> South Coast Air Quality Management District (SCAQMD)		
<b>DEPARTMENT:</b> Public Records		
<b>ADDRESS/CITY:</b> 9150 Flair Drive, El Monte		
<b>COUNTY/STATE/ZIP:</b> Los Angeles, California, 91731		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Willy Mendez		818-572-2117
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> J. Chris Pires		<b>DATE:</b> 5/20/91
<b>SUBJECT:</b> Files		
<b>SITE NAME:</b> Petroleum Recycling Corp.		<b>EPA ID#:</b> CAT080011059

SCAQMD has files for Petroleum Recycling Corporation in Signal Hill.  
SCAQMD has issued permits to the site.

There are violations on record. On October 5, 1990, the facility was cited for releasing excessive hydrocarbons and for failing to obtain a permit to operate.

To acquire files we need to request them in writing. Their identification number for the site is 46056.

# CONTACT REPORT

<b>AGENCY/AFFILIATION:</b> City of Signal Hill		
<b>DEPARTMENT:</b> Public Works		
<b>ADDRESS/CITY:</b> Signal Hill		
<b>COUNTY/STATE/ZIP:</b> Los Angeles/California		
<b>CONTACT(S)</b>	<b>TITLE</b>	<b>PHONE</b>
1. Warren Elder	Senior Engineering Tech.	213-426-7333
2.		
<b>E &amp; E PERSON MAKING CONTACT:</b> J. Chris Pires		<b>DATE:</b> 5/22/91
<b>SUBJECT:</b> Runoff and sewer from facility		
<b>SITE NAME:</b> Petroleum Recycling Corp.		<b>EPA ID#:</b> CAT080011059

Runoff from the facility flows into a storm drain catch basin at Gardena and 29th streets. Historically, runoff from the site flowed into a storm drain catch basin at Spring Street. Water that enters the storm drains at these locations flows east and emerges into a canal just west of the intersection of Spring Street and Lakewood Boulevard. Water in this canal continues to flow east for approximately 1.5 miles before flowing south in the Los Cerritos Canal for an additional 4 miles to Alamitos Bay. The Alamitos Bay connects with the San Pedro Bay (Pacific Ocean) 1 mile farther near Seal Beach. The Los Cerritos Canal is not used for drinking water.

Sewer connections at the facility appear to go to Spring Street and then to Los Angeles County Sanitation District #3 via a pump station. The sewer pipes appear to flow west towards the intersection of Atlantic Avenue and 27th Street.

To acquire maps of the storm drains or sewer lines call Warren Elder at 213-426-7333 ext. 235.

# SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

Ecology and Environment, Inc.		
Field Investigation Team (FIT)		
160 Spear Street, Suite 1400		
San Francisco, California 94105		
(415) 777-2811		
<b>E &amp; E PERSON(S) CONDUCTING INTERVIEW AND MAKING OBSERVATIONS:</b>		
J. Chris Pires and Kathy Zavitz		
<b>FACILITY REPRESENTATIVE(S):</b>	<b>TITLE:</b>	<b>PHONE:</b>
Kathleen Tripple	Compliance Manager	213-595-6597
Marty Kruglikov	Chief Engineer	213-595-6597
<b>SITE NAME:</b> Petroleum Recycling Corporation		<b>DATE:</b> 6/5/91
<b>CITY/STATE:</b> Signal Hill, California		<b>EPA ID#:</b> CAT080011059

The following information was obtained during the interview:

[Note: information from this interview was clarified by a phone call to Kathleen Tripple on 6/27/91]

Petroleum Recycling Corporation (PRC) has three facilities located in California. These facilities are in Signal Hill, Fontana, and Patterson. The Patterson facility is a recent acquisition of 15 acres and used to be called Refinery Service. The Fontana facility is approximately 7 acres. The Signal Hill facility is the smallest facility with 3 acres. The Signal Hill facility is also the only of the three facilities which stores RCRA-regulated waste. All three facilities store non-RCRA California wastes. PRC employs approximately 200 people statewide. In Signal Hill there are 35 employees in the office at 2651 Walnut and about 40 employees at the plant at 1835 East 29th Street. The Signal Hill facility has expanded as much as the property allows, and future expansions by PRC will be at the other facilities. However, PRC is considering making the entire Signal Hill facility an entirely RCRA-regulated waste storage facility. Currently, only some of the storage units are RCRA-regulated.

Prior to 1950 the site was probably farmland. An oil well, which is currently idle, was also put on site before 1950. The Signal Hill facility was originally built, owned, and operated by Hume Refinery in the 1950s. Hume Refinery manufactured lubrication oil until it went out of business. McAuley Oil Company (Charles McAuley) purchased the

site in 1969. McAuley Oil Company operated as an oil dehydration facility. Since 1973, the plant operated as an oil recycling/dehydration facility. PRC leased the property and the facility from McAuley in 1984 and purchased it in 1986. PRC has undergone several name changes: PRC was called Petromex when it started in March 1984, was called Petroleum Recycling Industries (PRI) in February 1985, and Petroleum Recycling Corporation (PRC) in November 1986. PRC is a privately owned company. In 1988, PRC purchased the adjacent eastern property which used to be a car wash.

The Signal Hill facility consists of several buildings, a tank farm, a closed sump, a hazardous waste drum storage area, a hazardous waste bin storage area, and machinery typical of petroleum recycling such as shaker screens, pumps, centrifuges, separators, a filtration press, and a thermal dryer.

There are several buildings at the facility. None of the buildings store hazardous waste (except for a storage shed which holds lab samples which are exempt). The building on site are: an operations office; a waste fingerprinting lab; a caustic product storage shed; three mobile trailers used as a wastewater lab, a lunchroom, and a management room; two railroad cars used as offices; a truck maintenance building; and two old car wash buildings now used to store clean drums and office equipment.

The tank farm has a capacity of approximately 850,000 gallons. The tank farm was mostly built in the 1950s by Hume Refinery. There was a large fire at the facility in 1972 and tanks may have been replaced or added at that time. Several tanks on site were previously used before being installed at the Signal Hill facility. These factors combined with the lack of records on these aboveground tanks makes it difficult to determine the exact start-up date of most of the tanks. PRC added several smaller tanks to the facility in the 1980s. Tanks R1, R2, R3, D1, and D2 were added in 1984 and 1985, Tank HT-1 was added in 1987, Tanks HT-2, HT-2A, and T-404 were added in 1989. PRC representatives gave FIT a list of all storage tanks on site that included the volume and approximate age of the tanks. The containment of the tank farm has evolved from nonexistent bare soil in the early 1980s to the current paved and bermed secondary containment with pumps and sumps. A February 17, 1989 DHS inspection report stated that the large storage tanks, T-5001 and T-5002, were situated on soil. The outer bermed area was paved from 1984 to 1986 and the inner bermed area where the tanks are was paved from 1988 to 1989.

The hazardous waste drum storage area has been used since 1986. It can hold up to 75 55-gallon drums, but on average holds 30 drums. Currently, PRC has the drums picked up about every three weeks (less than 90 days). The drum storage area was unpaved until 1986, and was previously an underground storage sump used for storage of oily water runoff. In a February 17, 1989 DHS inspection report it was noted that in the drum storage area there were gaps in the masonry that served as runoff containment. PRC responded to the violation. The containment

consist of bermed pavement sloped to a drain that flows to a sump. PRC is planning to construct a new drum storage area that can hold up to 200 drums so they can have bigger, cheaper shipments.

The hazardous waste bin storage area can hold up to 20 roll-off bins which are each approximately 8 feet by 14 feet by 4 feet. The bins contain dry solid hazardous waste. There is no containment for this area currently as it is on soil and the northern portion of the facility which is downgradient from this area is not bermed. A December 20, 1990 DHS inspection report said that one of the roll-off bins containing K054/K051 filter cake was leaking, although the waste is supposed to be dry. PRC is in the process of paving the waste bin storage area.

There are no underground storage tanks on site. There was once a vaulted underground storage sump that supposedly held oily runoff and rainwater. The sump and surrounding soil were removed and the area was paved over. It was not clean-closed and subsequent sampling requested by the Underground Tank Division of the Los Angeles County Department of Public Works has shown extensive petroleum and lead contamination. PRC is working with the Department of Public Works to clean-close the sump as it has been classified as an underground tank.

Current facility processes and waste management practices involve six waste streams: waste antifreeze, waste diesel, hazardous waste fuel (alternative fuels), petroleum-refining industry wastes (K-wastes), used oil, and oily water. PRC has proposed an additional waste stream, high pH water, in the Part B submitted to DHS in May 1991.

Waste antifreeze is unloaded off of trucks at Truck Rack #3 and received in tank V-1. The waste antifreeze goes through a basic filter system at the Truck Rack pumps but is not treated in the tank. There are no solids in the waste antifreeze. PRC can handle up to 6,000 tons of waste antifreeze annually, but it handles less. The antifreeze is recycled off site at either PRC's Fontana facility or at Romic Chemical in Palo Alto.

Waste diesel from ships is unloaded by truck into receiving tank T-403. Marine diesel oil (MDO) usually meets specifications, otherwise it is used to thin asphalt products. The waste diesel in tank T-403 has no solids. The waste diesel is sold and trucked to other facilities which use it for blending.

Hazardous waste fuel (alternative fuels) is unloaded by truck into receiving tanks T-401, T-402, and T-404, which are RCRA-regulated SWMUs. This is a relatively new waste stream for PRC that started in December 1990. The wastes are liquid and solid F-wastes which are halogenated and nonhalogenated spent solvents and oil/paint sludges. The solvents and sludges have solid waste. Solid wastes that come in drums remain in their original drums although some liquid may be pumped off the top. These drums go directly to the hazardous waste drum storage area. The liquid wastes are unloaded at Truck Rack #1, are filtered as they go through the initial pumps and shaker screen, and are batched in the receiving tanks. Solids that come off the shaker



screen are drummed and put in the hazardous waste drum storage area. Joe Balfour of PRC told FIT that solids that come in drums are sent to Marine Shale in Louisiana, and Systech Environmental in Fredonia, Kansas. Liquid bulk wastes are sent to Systech, Patchem in Missouri; and Industrial Fuels (IFR) in Southbend, Indiana. Dirty empty drums are sent to Kooperage and Apex. PRC representatives provided FIT with profiles of wastes sent to some of these facilities.

Petroleum-refining industry wastes (K-wastes) have been unloaded at Truck Rack #1 like alternative fuels but in the future will be unloaded off trucks at Truck Rack #2 to go through the shaker screen to tanks HT-2 and HT-2A before being received by either T-5001 or T-5002. In 1987 and 1988, the facility managed this RCRA waste stream separately so as not to mix it with used oil and other wastes. In 1987 and 1988, PRC only accepted K-wastes with less than 5 percent solids. In January 1990, the wastewater treatment system was in place and the facility could start processeing high solid K-wastes. Since November 1990 PRC has not received any K-wastes because of the Third/Third Land Ban which prohibits solids from this waste from going to the Kettleman Hills Landfill and prohibits wastewater from being deep water injected. PRC is considering making the whole Signal Hill facility a RCRA facility to accept K-wastes and other new types of waste in the future.

Used oil and oily water are two waste streams that are handled similarly. These are unloaded at Truck Rack #2 if they need to go through the shaker screen. High quality waste oil that is less than 5% water and has minimal solids goes to the oil receiving tanks: T-601, T-602, T-603, T-604, T-605, T-606; where the waste oil may undergo heat or chemical treatment. Oily water and low quality waste oil that has lots of water or solids goes into the large receiving tanks: T-5001 and T-5002; where mixers keep solids from settling at the bottom of the tanks. From the T-5000 tanks, waste oil and waste oily water is sent to Wastewater Treatment System #1 (WW1). Installed in January 1990, WW1 is a mobile unit consisting of horizontal and vertical centrifuges, a filter press, and a thermal dryer. The unit generates waste oil, wastewater, and solids. Oil and water are separated in tanks T-2501 and T-1001. Waste oil goes to T-301 and then to the T-600 and T-5000 tank series before final decanting before being sold. Wastewater is chemical treated, DAF Float, and aerated before being sent off site to deepwater injection wells at EPC in Bakersfield, California or to the POTW at Gibson in Wilmington, California. PRC is trying to get permission to put wastewater into the industrial sewer system. Wastewater from used oil can sometimes be 30 percent to 40 percent solids. These solids are drummed and stored in the hazardous waste storage area. Dry solids generated by the thermal dryer go into storage bins which are trucked to offsite disposal or incinerator facilities. Dry solid wastes have to meet Toxicity Characteristic Leaching Procedure (TCLP) values to go into the Kettleman Landfill, wastes that do not pass TCLP go to IFR in Missouri to be incinerated. The only wastes sent to IFR were the ones that did not get off the facility before the Third/Third Land Ban was enacted.

The proposed waste stream, high pH water, would be unloaded by truck into tank V-2 to receive pH adjustment. It would then be sent to a disposal area or sewer discharged.

Historical facility processes and waste management practices are not well known. Past practices at the Hume Refinery are unknown except for the fact that they manufactured lubrication oil. McAuley Oil Company's permit allowed it to receive several kinds of wastes including pesticides like chlordane. Prior to 1989, PRC only had four waste streams: used oil, waste diesel, waste antifreeze, and low solid content petroleum-refining industry wastes (K-wastes such as K048, K049, K051). PRC is now expanding the list of hazardous wastes they can accept in their new Part A and Part B. PRC has added F-wastes to its permit and is trying to add U-wastes and additional D-wastes. Prior to 1986, PRC put the waste solids from bottoms of on-site tanks into bins near the tanks in a convenient area. Product drums were kept near aboveground tank V-2.

PRC representatives were unaware of any hazardous waste releases that may have occurred while the facility was operated by Hume Refinery or McAuley Oil. PRC representatives (and Corrective Action documentation in the May 1991 Part B) say that no releases to the environment (soil or water) have occurred at the facility and that intermittent small spills have been fully contained within the secondary containment areas of the facility. PRC had a fire in 1972, and it is unknown what releases may have occurred then. However, soil sampling done in 1987 and 1989 by consultants to PRC show contamination on site in the area around the closed sump. The sampling was performed at the request of the Los Angeles County Department of Public Works to complete closure certification.

There have been violations cited at the facility related to releases of hazardous waste. In October 1989, PCBs were found in a shipment of used oil sent by PRC to Systec Environmental. The case is being handled by Marcy Katzin at EPA. In October 1990, a business neighbor complained about the smell of emissions from PRC's thermal dryer, which resulted in a South Coast Air Quality Management District (SCAQMD) violation. PRC responded by installing a vapor recovery system. On May 7, 1991, an interagency environmental task force seized documents at PRC and took samples to prove that PRC sent contaminated used oil to the Long Beach fuel storage of Wright Terminals. PRC representatives claim that at one time they shipped used oil to Wright Terminals, but PRC cleaned the tanks after using them. To date, DHS has analyzed half of their samples and no PCBs have shown up. No charges have been made against PRC. PRC representatives claim that PRC has responded to all of its violations to date.

There is extensive regulatory involvement at the facility because of all the permits required to run the facility. PRC has air permits from SCAQMD for the wastewater treatment system, the storage tanks, the heater, and the boiler. PRC has applications for permits for the vapor recovery system and unloading racks. The county health agency gives the facility a license but has never inspected the facility. The City of Long Beach Fire Department inspects the facility annually and

occasionally review the facility's fire drills. The Los Angeles County Sanitation District annually inspects the wastewater treatment system.

**The following observations were made during the site reconnaissance visit:**

FIT inspected the facility at 2:00 pm with PRC representatives Kathleen Tripple and Marty Kruglikov.

FIT was first given a tour of the laboratory across the street from the plant.

The entrance to the facility was also the drive-in for the bobtail trucks and tank trucks going to unloading racks #1 and #3. The entire facility slopes so that liquids drain northward toward the tank farm and unloading rack #2.

The hazardous waste drum storage area had approximately 50 55-gallon drums (containing solids) and 4 200-gallon containers containing waste sludge. The drums were on pallets within the concrete bermed storage area. Water running in the area demonstrated how liquid flows to a lowpoint in the area where there is a drain to a sump (half tank HT-1) which is inside the adjacent tank farm. About 20 55-gallon product drums are kept nearby under tank V-2. Solids generated at the facility or brought in by truck go into the shaker and up an agar to be loaded into the drums. A small spill of greyish solid was on the agar.

The tank farm is separated from the drum storage area by a cinder block wall and is downslope from the drum storage area. The concrete floor of the area was wet as the sump drainage channels were being steam cleaned.

The mobile wastewater treatment system was being steam cleaned. Six product drums were being kept near the south end of the unit.

The hazardous waste bin storage area consists of an empty dirt lot. The bins are currently lined with plastic and covered with canvas. Surface runoff from this area and from tanks HT-2 and HT-2A by unloading rack #2 might flow to a sump at the northern end of the mobile wastewater treatment unit, or it might flow through the cyclone fence onto the dirt north of the facility. PRC is planning on paving the bin storage area and erecting a wall on the northern border of this area.

The old car wash buildings currently contain empty containers. Other buildings on site inspected include on-site labs, offices, and a driver's break room.

**APPENDIX B**  
**PHOTODOCUMENTATION**

FIELD PHOTOGRAPHY LOG SHEET

DATE: 6/5/91

TIME: 2:45 PM

DIRECTION:

north

WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:



View of the facility from the south entrance storage tanks and truck unloading rack #3.

DATE: 6/5/91

TIME 2:15 PM

DIRECTION:

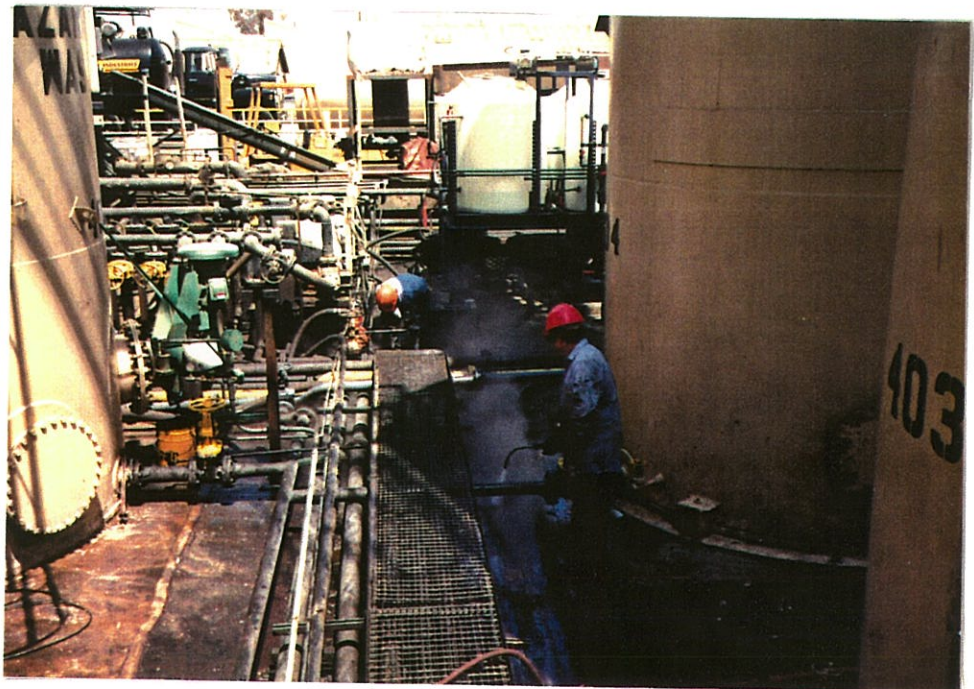
east

WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:



PRC workers cleaning a drainage channel inside the tank farm.

jcp/pr/fpls



FIELD PHOTOGRAPHY LOG SHEET

DATE: 6/5/91

TIME: 2:15 PM

DIRECTION:

south

WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:

Sump and pump in the lower right corner inside the tank farm. Note minor spill at switch back on auger that takes solid wastes from a shaker screen to the drum storage area.



DATE: 6/5/91

TIME 2:15 PM

DIRECTION:

west

WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:

The drum storage area contains high-solid content hazardous waste in 55-gallon drums and 200-gallon containers. Note the water on the right flowing to a drain which leads to a sump in the tank farm.



jcp/pr/fpls



FIELD PHOTOGRAPHY LOG SHEET

DATE: 6/5/91

TIME: 2:45 PM

DIRECTION:

north

WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:

The thermal dryer portion of the wastewater treatment system loading dry, solid hazardous waste into a roll-off bin.



DATE: 6/5/91

TIME 2:45 PM

DIRECTION:

northeast

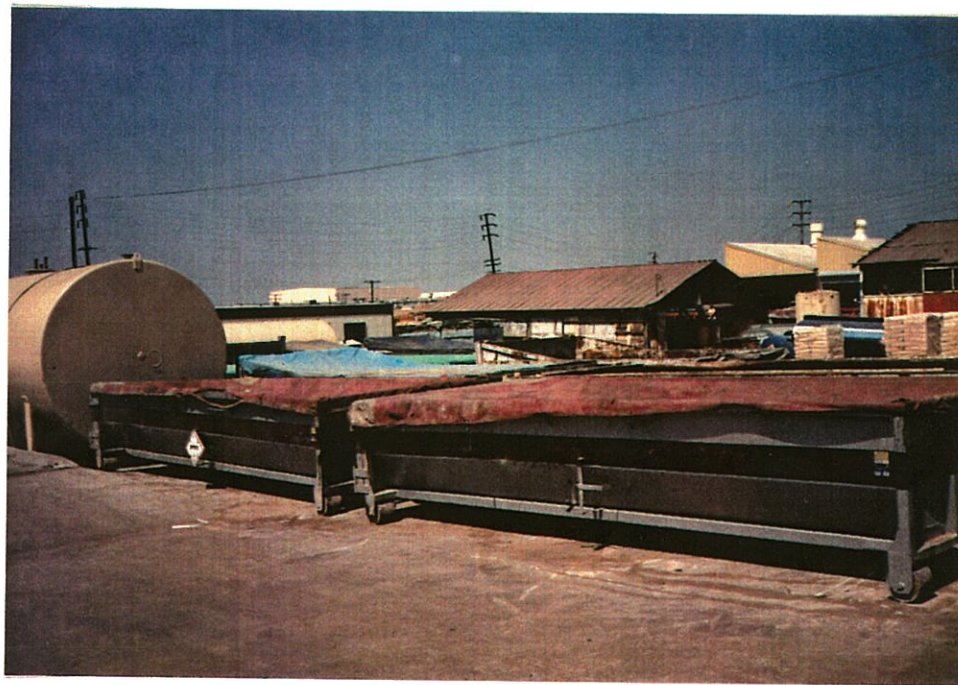
WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:

The hazardous waste bin storage area is unpaved.



jcp/pr/fpls



FIELD PHOTOGRAPHY LOG SHEET

DATE: 6/5/91

TIME: 2:30 PM

DIRECTION:

west

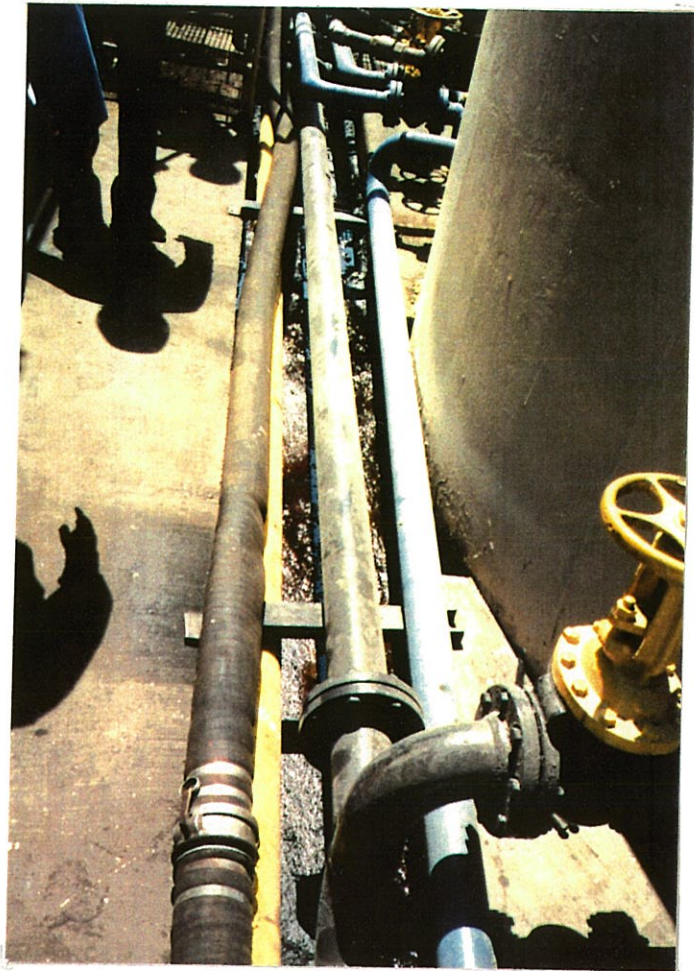
WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:

The tank farm's containment involves drainage channels to collection sumps. This picture was taken just south of tank D2.



DATE: 6/5/91

TIME 3:00 PM

DIRECTION:

west

WEATHER: sunny

PHOTOGRAPHED BY:

J. Chris Pires

DESCRIPTION:

An unbermed product drum storage area at the northern end of the facility near the wastewater treatment system.



jcp/pr/fpls